

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Attorney Docket Number	6884-66364
Application Number	10/632,495
Filing Date	July 31, 2003
First Named Inventor	Brian K. Aegerter
Art Unit	Not yet assigned
Examiner Name	Not yet assigned

U.S. PATENT DOCUMENTS

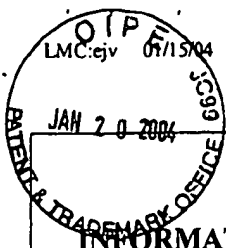
Examiner's Initials*	Cite No. (optional)	Number	Date	Name
LV		2,443,599	6/1948	Chester
		3,664,933	5/1972	Clauss
		3,716,462	2/1973	Jensen
		3,727,620	4/1973	Orr
		3,770,598	11/1973	Creutz
		3,878,066	4/1975	Dettke et al.
		3,894,918	7/1975	Corby et al.
		3,930,963	1/1976	Polichette et al.
		3,953,265	4/1976	Hood
		4,000,046	12/1976	Weaver
		4,027,686	6/1977	Shortes et al.
		4,092,176	5/1978	Kozai et al.
		4,110,176	8/1978	Creutz et al.
		4,113,492	9/1978	Sato et al.
		4,132,567	1/1979	Blackwood
		4,134,802	1/1979	Herr
LV		4,250,004	2/1981	Miles et al.

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LMC:ejv 07/15/04 6884-66364 P00-0024US4 235301

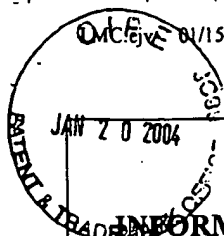
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LV		4,315,059	2/1982	Raistrick et al.
		4,336,114	6/1982	Mayer et al.
		4,376,685	3/1983	Watson
		4,405,416	9/1983	Raistrick et al.
		4,428,815	1/1984	Powell et al.
		4,435,266	3/1984	Johnston
		4,437,928	3/1984	Wong
		4,439,243	3/1984	Titus
		4,439,244	3/1984	Allevato
		4,466,859	8/1984	Nelson
		4,489,740	12/1984	Rattan et al.
		4,510,176	4/1985	Cuthbert et al.
		4,518,678	5/1985	Allen
		4,519,846	5/1985	Aigo
		4,539,222	9/1985	Anderson Jr. et al.
		4,544,446	10/1985	Cady
		4,560,445	12/1985	Hoover et al.
		4,576,689	3/1986	Makkaev et al.
LV		4,664,133	5/1987	Silvermail et al.

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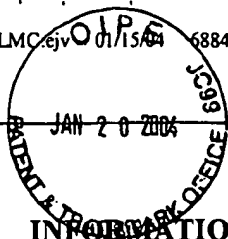
LV		4,687,552	8/1987	Early et al.
		4,693,805	9/1987	Quazi
		4,732,785	3/1988	Brewer
		4,750,505	6/1988	Inuta et al.
		4,779,877	10/1988	Shaw
		4,781,801	11/1988	Frisby
		4,790,262	12/1988	Nakayama et al.
		4,838,289	6/1989	Kottman et al.
		4,891,069	1/1990	Holtzman et al.
		4,903,717	2/1990	Sumnitsch
		4,959,278	9/1990	Shimauchi et al.
		4,962,049	10/1990	Chang et al.
		4,982,215	1/1991	Matsuoka
		4,982,753	1/1991	Grebinski Jr. et al.
		5,017,271	5/1991	Whewell et al.
		5,020,200	6/1991	Mimakasa et al.
		5,028,513	7/1991	Murakami et al.
		5,032,217	7/1991	Tanaka
LV		5,039,381	8/1991	Mullarkey

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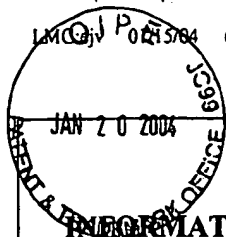
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LV		5,040,484	8/1991	Mears et al.
		5,055,425	10/1991	Leibovitz et al.
		5,075,256	12/1991	Wang et al.
		5,084,412	1/1992	Nakasaki
		5,091,339	2/1992	Carey
		5,115,430	5/1992	Hirai et al.
		5,117,769	6/1992	DeBoer et al.
		5,145,571	9/1992	Lane et al.
		5,151,168	9/1992	Gilton et al.
		5,155,336	10/1992	Gronet et al.
		5,160,600	11/1992	Patel et al.
		5,162,260	11/1992	Leibovitz et al.
		5,164,332	11/1992	Kumar
		5,168,886	12/1992	Thompson et al.
		5,209,180	5/1993	Shoda et al.
		5,209,817	5/1993	Ahmad et al.
		5,222,310	6/1993	Thompson et al.
		5,224,503	7/1993	Thompson et al.
LV		5,224,504	7/1993	Thompson et al.

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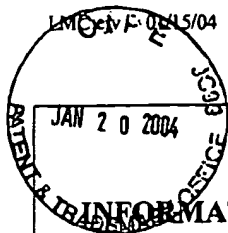
LV		5,230,743	7/1993	Thompson et al.
		5,249,728	10/1993	Lam
		5,252,807	10/1993	Chizinsky
		5,256,274	10/1993	Poris
		5,259,407	11/1993	Tuchida et al.
		5,277,985	1/1994	Li et al.
		5,290,361	3/1994	Hayashida et al.
		5,298,465	3/1994	Levy
		5,314,756	5/1994	Tagaya
		5,316,802	5/1994	Ebe et al.
		5,316,974	5/1994	Crank
		5,328,589	7/1994	Martin
		5,349,978	9/1994	Sago et al.
		5,361,449	11/1994	Akimoto
		5,368,711	11/1994	Poris
		5,372,848	12/1994	Blackwell et al.
		5,377,708	1/1995	Bergman et al.
		5,397,741	3/1995	O'Connor et al.
LV		5,421,893	6/1995	Perlov

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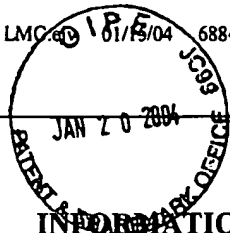
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LV		5,429,733	7/1995	Ishida
		5,431,421	7/1995	Thompson et al.
		5,431,803	7/1995	DiFranco et al.
		5,441,618	8/1995	Matsuda et al.
		5,445,172	8/1995	Thompson et al.
		5,447,599	9/1995	Li et al.
		5,472,502	12/1995	Lowery
		5,500,081	3/1996	Bergman
		5,508,881	4/1996	Stevens
		5,513,594	5/1996	McClanahan et al.
		5,532,094	7/1996	Arimura et al.
		5,549,808	8/1996	Farooq et al.
		5,551,986	9/1996	Jain
		5,591,262	1/1997	Sago et al.
		5,600,532	2/1997	Michiya et al.
		5,605,615	2/1997	Goolsby et al.
		5,608,943	3/1997	Konishi et al.
		5,612,254	3/1997	Mu et al.
LV		5,616,069	4/1997	Walker et al.

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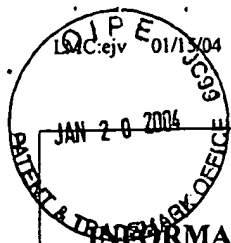
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LV		5,625,170	4/1997	Poris
		5,627,102	5/1997	Shinriki et al.
		5,639,316	6/1997	Cabral Jr. et al.
		5,651,823	7/1997	Parodi et al.
		5,651,865	7/1997	Sellers
		5,666,985	9/1997	Smith Jr. et al.
		5,674,787	10/1997	Zhao et al.
		5,677,244	10/1997	Venkatraman
		5,677,824	10/1997	Harashima et al.
		5,678,116	10/1997	Sugimoto et al.
		5,693,563	12/1997	Teong
		5,705,223	1/1998	Bunkofske
		5,707,466	1/1998	Atwater et al.
		5,718,763	2/1998	Tateyama et al.
		5,718,813	2/1998	Drummond et al.
		5,723,028	3/1998	Poris
		5,733,024	3/1998	Slocum et al.
		5,747,355	5/1998	Konuma et al.
LV		5,762,708	6/1998	Motoda et al.

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LAC:ejv 01/13/04 6884-66364 P00-0024USA 235301

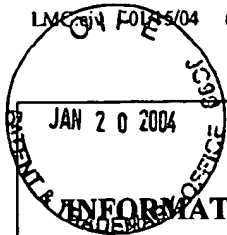
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LV		5,762,751	6/1998	Bleck et al.
		5,763,953	6/1998	Iijima et al.
		5,766,499	6/1998	Blackwell et al.
		5,779,796	7/1998	Tomoeda et al.
		5,779,799	7/1998	Davis
		5,801,444	9/1998	Aboelfotoh et al.
		5,807,493	9/1998	Maki et al.
		5,814,557	9/1998	Venkatraman et al.
		5,815,762	9/1998	Sakai et al.
		5,845,662	12/1998	Sumnitsch
		5,860,640	1/1999	Marohl et al.
		5,868,866	2/1999	Maekawa et al.
		5,873,992	2/1999	Glezen et al.
		5,882,433	3/1999	Ueno
		5,882,498	3/1999	Dubin et al.
		5,885,476	3/1999	Hong et al.
		5,885,755	3/1999	Nakagawa et al.
		5,890,269	4/1999	Gardner et al.
LV		5,893,752	4/1999	Zhang et al.

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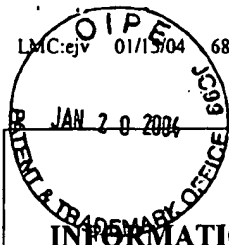
LV		5,908,543	6/1999	Matsunami et al.
		5,916,366	6/1999	Ueyama et al.
		5,932,077	8/1999	Reynolds
		5,937,142	8/1999	Moslehi et al.
		5,939,788	8/1999	McTeer
		5,942,035	8/1999	Hasebe et al.
		5,944,894	8/1999	Kitano et al.
		5,952,050	9/1999	Doan
		5,964,954	10/1999	Matsukawa et al.
		5,965,036	10/1999	Maki et al.
		5,969,422	10/1999	Ting et al.
		5,969,424	10/1999	Matsuki et al.
		5,972,192	10/1999	Dubin et al.
		5,989,623	11/1999	Chen et al.
		5,997,653	12/1999	Yamasaka
		6,001,730	12/1999	Farkas et al.
		6,015,749	1/2000	Liu et al.
		6,036,836	3/2000	Peeters et al.
LV		6,037,257	3/2000	Chiang et al.

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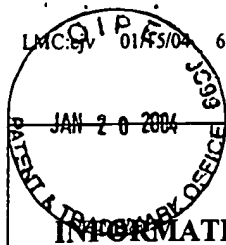
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LV		6,043,153	3/2000	Nogami et al.
		6,059,985	5/2000	Yoshimura et al.
		6,066,892	5/2000	Ding et al.
		6,072,163	6/2000	Armstrong et al.
		6,074,544	6/2000	Reid et al.
		6,099,712	8/2000	Ritzdorf et al.
		6,100,195	8/2000	Chan et al.
		6,113,771	9/2000	Landau et al.
		6,121,141	9/2000	Woo et al.
		6,123,825	9/2000	Uzoh et al.
		6,126,761	10/2000	DeHaven et al.
		6,126,989	10/2000	Robinson et al.
		6,136,163	10/2000	Cheung et al.
		6,139,639	10/2000	Kitamura et al.
		6,139,697	10/2000	Chen et al.
		6,184,121	2/2001	Buchwalter et al.
		6,184,137	2/2001	Ding et al.
		6,228,768	5/2001	Woo et al.
LV		6,254,758	7/2001	Koyama

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UV		6,255,228	7/2001	Rolfson
		6,264,752	7/2001	Curtis et al.
		6,268,289	7/2001	Chowdhury et al.
		6,278,089	8/2001	Young et al.
		6,280,183	8/2001	Mayur et al.
		6,290,833	9/2001	Chen
		6,297,154	10/2001	Gross et al.
		6,309,981	10/2001	Mayer et al.
		6,318,385	11/2001	Curtis et al.
		2001/0041447	11/2001	Nogami
		6,331,490	12/2001	Stevens et al.
		6,350,319	2/2002	Curtis et al.
		6,413,436	7/2002	Aegerter et al.
		6,423,642	7/2002	Peace et al.
		6,446,643	9/2002	Curtis et al.
		6,508,920	1/2003	Ritzdorf et al.
UV		6,632,292	10/2003	Aegerter et al.

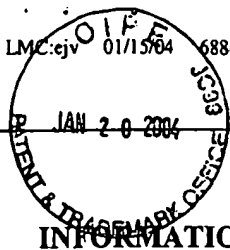
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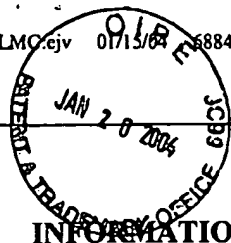
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LV		0 751 567	1/1997	EP
		0 881 673	12/1998	EP
		0 982 771	3/2000	EP
		2 184 288	6/1987	GB
		58-182823	10/1983	JP
		59-208831	11/1984	JP
		60-137016A	7/1985	JP
		60-137016	7/1985	JP
		61-196534	8/1986	JP
		61-196534A	8/1986	JP
		62-166515	7/1987	JP
		63-118093	5/1988	JP
		63-185029	7/1988	JP
		1-120023	5/1989	JP
		1-283845	11/1989	JP
		4-94537	3/1992	JP
		4-131395	5/1992	JP
		4-280993	10/1992	JP
LV		5-21332	1/1993	JP

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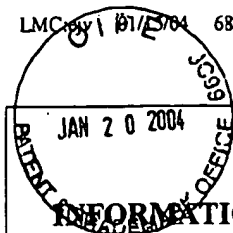
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W		5-13322	1/1993	JP
		5-326483	12/1993	JP
		6-17291	1/1994	JP
		6-45302	2/1994	JP
		52-12576	1/1997	JP
		1-283845	11/1999	JP
		WO 97/12079	4/1997	WIPO
		WO 98/27585	6/1998	WIPO
		WO 99/46064	9/1999	WIPO
W		WO 99/46065	9/1999	WIPO

Examiner's Initials*	Cite No. (optional)	OTHER DOCUMENTS
LV		Ahn, E.C., et al., "Adhesion Reliability of Cu-Cr Alloy Films To Polyimide," Met. Res. Soc. Symp. Proc. Vol. 427, 1996 Materials Research Society, pp. 141-145.
LV		Alers, G.B. et al., "Trade-off between reliability and post-CMP defects during recrystallization anneal for copper damascene interconnects," IEEE International Reliability Physics Symposium, Orlando, Florida 2001, pp. 350-354.
LV		Bunshah et al., Deposition Technologies for Films and Coatings Developments and Applications, Noyes Publications, Park Ridge, NJ, USA, pp. 2-3, 1982.
LV		Gladkikh, A. et. al., "Activation Energy of Electromigration in Copper Thin Film Conductor Lines," Met. Res. Soc. Symp. Proc. 1996 Materials Research Society, pp. 121-133.
LV		Russell, S.W. et al., "The Effect of Copper on the Titanium-Silicon Dioxide Reaction and the Implications for Self-Encapsulating, Self-Adhering Metallization Lines," Materials Research Society Symposium vol. 260--Advanced Metallization and Processing for Semiconductor Devices and Circuits--II (May 1992) pp. 763-769.

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LV		Mel, Yu-Jane et al., "Thermal Stability and Interaction Between SiO ₂ and Cu Film," Met. Res. Soc. Symp. Proc. vol. 427, 1996 Materials Research Society, pp. 433-439.
		Lucio Columbo, "Wafer Back Surface Film Removal," Central R&D, SGS-Thompson, Microelectronics, Agrate, Italy, 6 pages. No date available.
		Semitool, Inc..COPYRGT., "Metallization & Interconnect," 1998, 4 pages. Month of publication not available.
		Verteq Online.COPYRGT., "Products Overview," 1996-1998, 5 pages. Month of publication not available.
		Laurell Technologies Corporation, "Two control configurations available--see WS 400 or WS-400Lite." Oct. 19, 1998, 6 pages.
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